New Designs

SUPPLEMENTARY INFORMATIONS TO CATALOGUE UE 158

LOEWE

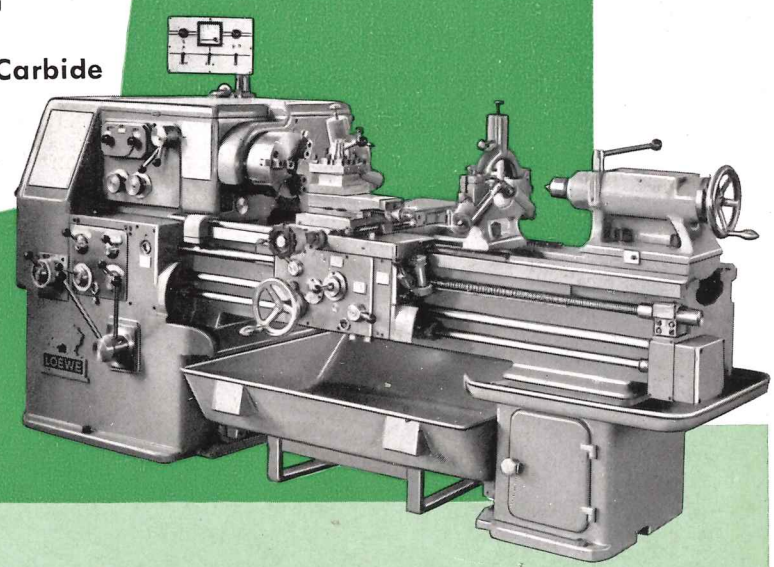
LOEWE-LATHES

The Center Lathes DL 6 EV have been replaced by the Model **DL 6 AV,** and Type **DZ 508** has taken the place of the Sliding, Surfacing and Copying Lathe DZ 308.

The Type **DZ 6 AZ,** Sliding and Surfacing Lathe for Heavy Cutting Work has been recently introduced. In addition, our range has been completed by a Type **DP 506** Production Lathe.

Before a new catalogue is available, the specifications on the following pages may serve for information relative to our new designs.

Vibration-free Construction
+
High power
+
Wide Range of Speeds
=
Economic Production with Tungsten-Carbide Tools



Type DL 6 AV Center Lathe (New Design)

This one meets the highest demands for output, dependability and working accuracy. Outstanding features of this new design are:

Extra Heavy and Sturdy Construction throughout with low position of center of gravity, thereby being ideal for use with carbide tools.

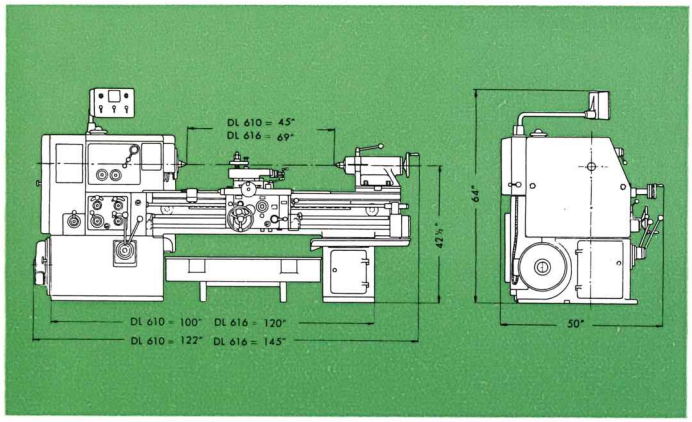
Strong Work Spindle with bore of generous size is mounted on adjustable precision anti-friction bearings which assure minimum radial play and great true running of the spindle at all speeds.

Peak Working Accuracy through vibration-free running without detrimental heating of the headstock, because driving motor, clutch and brake are housed with the basic transmission arrangement inside of the left-hand cabinet leg.

Extremely Easy Operation through electro-magnetic clutches and brake.

Hardened and Ground Gears throughout the gearing system.

Hardened, Ground and Covered Bed Ways which contribute to long-life precision.
Simple Setting of the pitches of metric, English, module and Diametral Pitch Threads by a single lever.
Indexing Attachment for multi-start threads.
Speed Ratio of 1 : 200 and wide range of feeds.
Numerous Extra Outfits, copying attachment included, for increasing the scope.



SPECIFICATIONS		DL 610 AV	DL 616 AV
Maximum turning length	in.	40	63
Distance between centers	in.	45	69
Maximum swing over bed	in.	17 3/4	
over carriage	in.	9 7/8	
Height of tool shank	in.	1 1/4	
Hole through spindle	in.	2 1/8	
Morse taper in work spindle		No. 6	
in tailstock		No. 5	
24 spindle speeds*)	RPM	11,2 to 2240	
Feeds through gears longitudinal	in. p r.	0,0008 to 0,0559	
transverse	in. p. r.	0,0004 to 0,0280	
Rough feeds through gears at low cutting speeds		4 and 16 times the rates of feed through gears	
Threads Metric	mm	0,125 to 128	
Module		0,05 to 32	
English	t. p. i.	128 to 9/32	
Pitch		512 to 1 1/8	
Power requirements*) — approximate	HP	20	
Net weight — approximate	lbs.	7100	7540
Floor space needed — approximate	in.	122 x 50	145 x 50
Case dimensions — approximate	ft.	11,2 x 4,6 x 6	13,5 x 4,6 x 6

*) Special ranges or Smaller Horsepower — on special order.

*

Type DZ 6 AZ Sliding and Surfacing Lathe (New Design)

Except that this machine is not arranged for screwcutting, it is identical in its design and construction to the model DL 6 AV as described above and consequently, this Sliding and Surfacing Lathe incorporates the same design features which ensure the

Peak Working Accuracy,
High Metal Removing Capacity, and
Ease of Operation

of the machine.

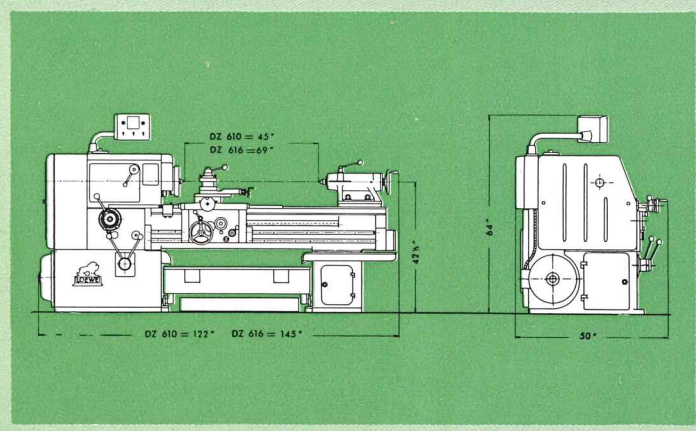
The **PIV infinitely variable gear provided for the drive of the feed shaft** permits to set sensitively the feed to the rate best suited to the nature of the work, and feed changing can be carried out "during the cut".

The speed and feed ranges are so selected that full advantage can be taken of the cutting ability of modern carbide tools.

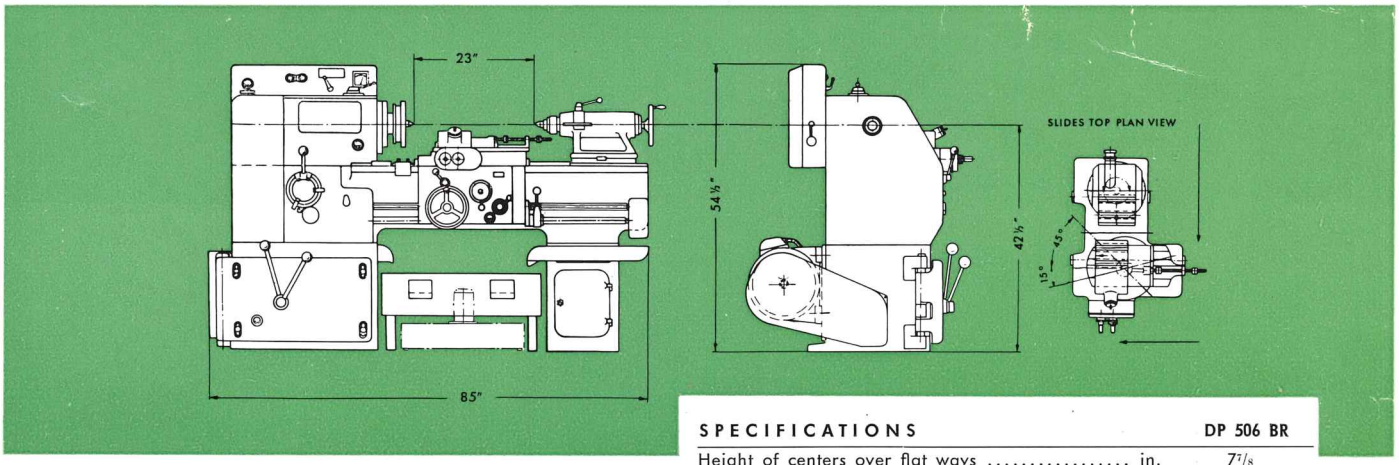
In its disign as a Copy Turning Lathe (newly introduced) the machine is **designated Type DZ 6 AZK.**

The fully hydraulic copying equipment functioning with one-edge tracer control on this machine permits:
copying longitudinally, crosswise and internally from round or flat templates. Moreover, performance of multi-tool copying to the method of successive cuts is possible.

Items of optional equipment such as:
Automatic return of the carriage in fast travel (with tracer running off automatically), Automatic feed control and Pneumatic equipments for work holding fixtures and tailstock
permit to increase still the capacity of the machine.



SPECIFICATIONS						
Type of Machine		DZ 610 AZ	DZ 616 AZ	DZ 610 AZK	DZ 616 AZK	
Style		Sliding and Surfacing Lathe		Copying Lathe		
Length that can be turned	in.	40	63	40	63	
Distance between centers	in.	45	69	45	69	
Swing over bed	in.	17 3/4				
over carriage	in.	9 7/8				
Work spindle — Bore	in.	2 1/8				
Taper		No. 6 Morse				
Spindle nose		DIN 55022 — Size No. 8				
Taper in tailstock		DIN 2080 No. 30 (revolving)				
Spindle speeds — Number of changes		15				
Range	RPM	71 to 1800				
or	RPM	90 to 2240 (optional)				
Feeds: infinite number of changes — longitudinal	in. p. r.	0,0012 to 0,0236				
cross	in. p. r.	0,0006 to 0,0012				
Maximum step when copying at 45 deg.	in.	—	—	4	4	
Traverse of hydraulic copying slide	in.	—	—	6	6	
Motor Horsepower — approximate	HP	20	20	20	20	
Floor space needed — approximate	in.	122 x 50	145 x 50	122 x 50	145 x 50	
Net weight — approximate	lbs.	6575	7020	7280	7720	



SPECIFICATIONS		DP 506 BR
Height of centers over flat ways	in.	7 7/8
Length will turn	in.	19 11/16
Length of top slide motion automatic long.	in.	7 7/8
cross.	in.	4 11/32
Distance between centers	in.	23 5/8
Swing over bed	in.	16 17/32
slide rests	in.	7 1/2
Hole through spindle	in.	1 27/64
Taper in work spindle		No. 5 Morse
Spindle end: size No. 6		
Taper in tailstock sleeve		No. 3 Morse
12 cutting speeds of work spindle ranging from ..	RPM	140 to 1800
Feeds steplessly-variable by hand:		
Range of feeds for carriage (lengthwise)	in. p. r.	0,0019 to 0,0197
Range of feeds for front top slide rest	in. p. r.	0,0009 to 0,0178
Range of feeds for rear top slide rest	in. p. r.	0,0005 to 0,0168
Section of cutting tool	in.	1 x 1
Floor space needed - approximate	lbs.	45 1/2 x 97 1/4
Motor Horsepower	HP	10,2
Net weight - approximate	lbs.	3100

Type DP 506 BR

Production Lathe

(New Design)

This machine which is designed and built for the mass production of turned parts, possesses a carriage with 2 rotary slide rests operable independently from each other and fitted with automatic movements.

A feature of the arrangement is that longitudinal turning and facing as well as taper turning in any combination can be carried out simultaneously. By the use of change gears, feeds can be set to different rates for each of the two slide rests.

The selection of the speed and feed ranges is such that it is possible to operate economically with high-speed or tungsten carbide cutting tools.

PIV-feed gear mechanism permits steplessly-variable setting and changing of the feed during the cut.

The massive bed with hardened, ground and covered slideways, and the adjustable anti-friction bearings of the headstock spindle ensure a high accuracy of work under all operating conditions.

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Type DZ 508 Copying Lathe and Sliding and Surfacing Lathe

This machine has been developed from the former DZ 308 Lathe (for particulars and illustrations see catalogue UE 158) and is similar to this one. Comparatively to the type DZ 308, the Machine presents changed dimensions, is equipped with steplessly-variable feeds, and features still more strength throughout its construction.

This Lathe is intended for heavy cuts when turning longitudinally or facing with tungsten-carbide tools and is available as Copying Lathe DZ 508 BRK and DZ 508 BRKs or as Sliding and Surfacing Lathe DZ 508 BR and DZ 508 BRs.

Its most interesting data are listed in the following specification table.

The sound and robust construction of the machine, the relatively high motor horsepower (10,2 h. p.), the wide range of speeds, and the work spindle mounting on anti-friction bearings permit to get the best out of the cutting strength of modern carbide tools. Because there are tremendous savings in non-productive time when applying the copy turning method with set-up times normally lower than those required by the stop method used on a lathe, this Machine is ideal for doing economically short and long run jobs (for short run jobs, 3 to 6 pieces per batch may be the minimum according to the shape of the component).

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The Copying Equipment operates hydraulically with a copying accuracy of 0,01 mm and is so arranged as to copy turn

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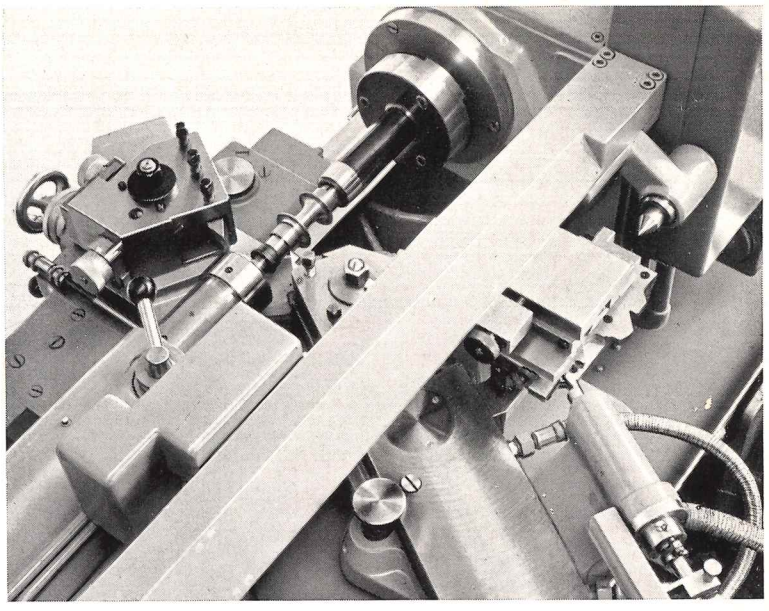
cylinders,
shoulders increasing at right angle,
increasing tapers of any angle,
radii and fillets

at one pass. Furthermore, both facing and internal copying can be performed. Round or flat templates may serve as masters.

By employing a front toolholder of special type which is coupled to the copying slide, the lathe can be set-up for copy turning with 2 tools to the method of successive cuts, as shown in the accompanying illustration.

The work spindle runs on adjustably mounted NNK-antifriction bearings so that smooth running conditions are secured at all speeds.



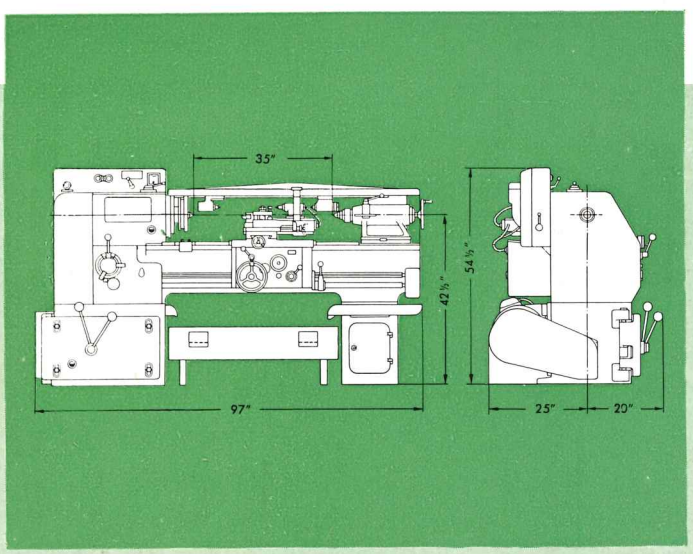
Feeds are obtained from a PIV infinitely variable gear which can be regulated in the ratio of 1 : 10 (amounts of feed ranging from 0,002" to 0,02", and transversely, from 0,001" to 0,01" per revolution). The use of a gear of this class permits

feed to be changed during the cutting cycle,
best suited feeds to be secured sensitively,
metal removing capacity and quality of surface finish to be improved substantially, and
at pre-determined cutting speed:
feed to be adjusted so that the power of the lathe is used to its fullest extent.

To compensate for an axial heat expansion of the workpiece, when doing the job between centers, the rotating bush in the tailstock sleeve is supported against a compensating spring.

EXTRA OUTFITS:

1. **Rapid Traverse to the Carriage**
which is so arranged that at the end of the cut the carriage retracts automatically to its starting position. The tracer and thereby the tool are brought automatically out of operation during the return movement of the carriage.
2. **Automatic Feed Control**
This arrangement provides a considerable reduction of the cutting time on workpieces with a pre-selected variation of the surface finish qualities on the different steps, because the feed is adjusted automatically to the rate which is best suited to the nature of the work. On long running times the operator can therefore look after several machines.
3. **Pneumatic Equipment**
for power-operated work fixtures fitted to the nose end of the work spindle and for spindle sleeve travel of the tailstock.



SPECIFICATIONS

Turning length in. 32 Distance between centers in. 35 Swing over bed in. 16½ Swing over carriage in. 8½ Work spindle - Bore in. 1 13/32 Work spindle - Taper No. 5 Morse	Horsepower		Range of speeds	
	Drive Motor	Hydraulic Motor	in Groups	R. P. M.
Type No. 1 DZ 508 BR Standard Sliding and Surfacing Lathe	10,2	–	12	180 to 2240
Type No. 2 DZ 508 BRs High Speed Sliding and Surfacing Lathe	6,7 or 10,2	–	9	450 to 2800
Type No. 3 DZ 508 BRK Standard Copy Turning Lathe	10,2	0,7	12	180 to 2240
Type No. 4 DZ 508 BRKs High Speed Copy Turning Lathe	6,7 or 10,2	0,7	9	450 to 2800
Type No. 5 DZ. 508 RSK equipped with Copying Attachment, steplessly-variable speed regulation through electronically controlled D. C. motor, and automatic feed regulation through a PIV gear	10,9 variable speed	0,7	infinitely variable	147 to 2840

Floor space needed - approximate 45"x97" · Net weight - approximate 4850 lbs.

All particulars and illustrations are not binding.

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